KineticSystems

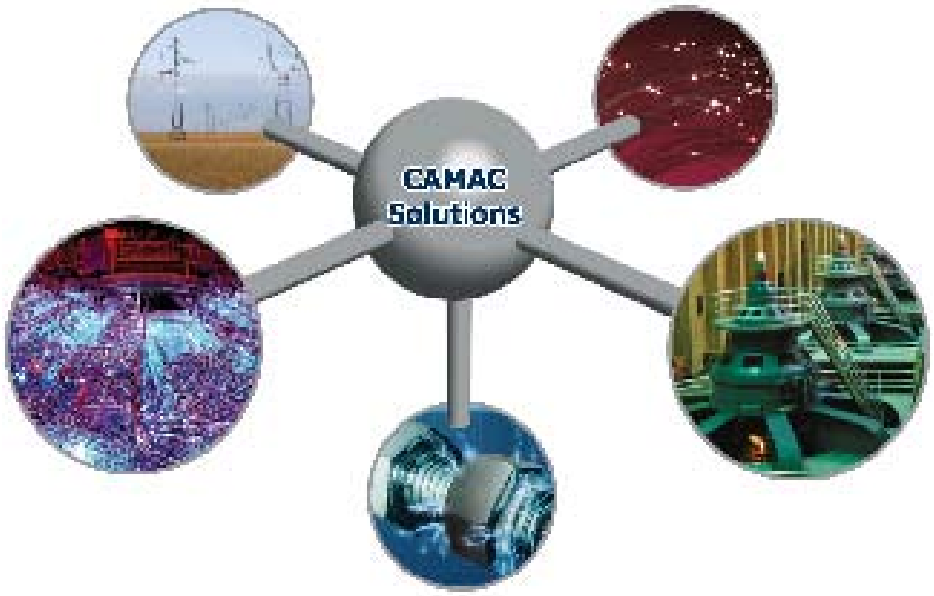
CAMAC Equipment

CAMAC, Computer Automated Measurement And Control, is an IEEE-standard (583), modular, high-performance, realtime data acquisition and control system concept.

Since 1969, CAMAC has been used in many thousands of scientific, industrial, aerospace, and defense test systems around the world.

3660

Programmable Clock Generator



The Model 3660 is a single-width CAMAC module providing a very flexible programmable multi-step clock generator for clocking ADCs and other front-end data acquisition modules.

APPLICATIONS

Programmable transient recorder clock

Programmable clock for data acquisition

Synchronized data acquisition e.g. from shaft encoder

FEATURES

- Programmable frequency sequence of up to 256 steps
- Programmable frequency range from 0.5961 Hz to 10.00 MHz
- Strobe and gate outputs to delineate groups of output clocks (steps) programmable by number of clocks per group, number of external input triggers, or CAMAC command
- Optional LAM generation at end of each program step

GENERAL DESCRIPTION

The Model 3660 is a single-width CAMAC module providing a very flexible programmable multi-step clock generator for clocking ADCs and other front-end data acquisition modules. It provides a programmable sequence of clock rates for applications requiring different sampling rates during different phases of data collection and the ability to synchronize data sampling with an external trigger as well as dividing down an external clock source.

The 3660 provides storage for sequences as long as 256 steps where the frequency and duration of each step can be programmed. The module derives the output clock from one of three sources: a 10 MHz crystal clock, a 10.24 MHz crystal clock, or an external clock. Each step is defined by a division factor by which the base clock is divided. The duration of each step is determined by an associated count or external trigger. In the case of external trigger, the next step is initiated synchronously with the 2nd tick of the base clock. An optional LAM can be generated at the end of any step to signal the host processor that a new step has been initiated. The current frequency division, current step, amperes count, previous step sample count, and program step address are directly accessible registers.

The frequency steps are loaded by software into the program RAM. Each step includes a base frequency divisor, a step termination selection based on a specified count, external trigger, or software command only, and a flag word that selects various options on a step by step basis. The frequency divisor is a 16-bit modulo-N value by which the base frequency is divided. This provides a frequency range from 152.59 Hz to 10 MHz range for the 10 MHz base clock. For low frequency applications, the base clock divided by 256 may be selected providing frequency ranges of 0.5961 Hz to 39.062 KHz (10 MHz base clock) or 0.6104 Hz to 40.0 KHz (10.24 MHz base clock). The count field is a 24-bitcount that permits from 1 to 16 Msamples per step. When external trigger is selected, these bits are used to select a trigger divisor. A value of 4 would for example terminate the step on the 4th trigger.

The module is also capable of generating the following signals at the completion of a step:

- Generate a LAM,
- Generate a 50 nanosecond, high-true TTL output pulse on one or two front panel Step Complete Strobes,
- Generate a 50 nanosecond, high-true TTL output pulse on completion of the last program step.

In addition the module can selectively set or clear a TTL level signal at the start of each step. This signal is available on the Gate-Out LEMO connector on the front panel and can be selected to drive the CAMAC Inhibit line.

The following control options are associated with each program step:

- Select External Trigger,
- output pulse count,
- software step termination,
- Disable clock output pulse for step duration (used to generate a delay).

The base clock frequency is selected by bits in the CSR register.

A previous pulse count register is provided that is loaded with the current sample count at the end of each step and is accessible by CAMAC command. This register can be read following a step to determine the number of samples from the previous step. Thus, the actual number of samples acquired during a step which was terminated by an external trigger or CAMAC command, can be determined.

POWER REQUIREMENTS

+6 volts — 2.1 A

WEIGHT:

.62 kg. (1 lb. 6 oz.)

ACCESSORIES

Model 5910-Z1A	Single-pin LEMO Connector
Model 5857-Bxyz 1-pin	LEMO/RG174/1-pin LEMO Cable Assembly

ORDERING INFORMATION

MODEL	DESCRIPTION
3660-Z1A	Programmable Clock Generator (10.24 MHz maximum)

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